

REMARKS/ARGUMENTS

Amendments to the Claims

Claims 1-53 remain in this application. Claims 1 and 19 have been amended. Claims 10-12 and 26-28 have been canceled, and claims 35-53 have been withdrawn as the result of an earlier restriction requirement.

The Examiner has rejected claims 1-34 under 35 U.S.C. 102(b) and 103(a) citing WO 02/060702 A2 separately and in combination with Moroff et al. (US 4,324,832), Frischer (US 5,989,380), Dudley (US 4,089,765), Wang et al. (US 5,935,880), Jellinek et al. (US 4,810,751) and GB2 292 082.

§ 102(b) & § 103(a) Rejections

The Examiner has rejected claims 1, 2, 4, 6, 9, 17, 19, 21, 23-25 and 35 under 35 U.S.C. 102(b) as being anticipated by WO 02/060702 A2.

Claims 1, 2, 4, 6-9 and 15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,324,832 to Moroff et al. in view of WO 02/060702 A2. Claims 3 and 5 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,324,832 to Moroff et al. in view of WO 02/060702 A2 in further view of U.S. Patent No. 5,935,880 to Wang et al. Claims 10-14 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,324,832 to Moroff et al. in view of WO 02/060702 A2 in further view of U.S. Patent No. 4,810,751 to Jellinek et al. Claim 16 has been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,324,832 to Moroff et al. in view of WO 02/060702 A2 in further view of GB 2 292 082 A. Claims 17 and 18 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,324,832 to Moroff et al. in view of WO 02/060702 A2 in further view of U.S. Patent No. 5,989,380 to Frischer. Claims 19, 21, 23-25, 31, 33 and 34 have been rejected under 35

U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,989,380 to Frischer in view of WO 02/060702 A2. Claims 20 and 22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,989,380 to Frischer in view of WO 02/060702 A2 in further view of U.S. Patent No. 5,935,880 to Wang et al. Claims 26-30 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,989,380 to Frischer in view of WO 02/060702 A2 in further view of U.S. Patent No. 4,810,751 to Jellinek et al. Claim 35 has been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,989,380 to Frischer in view of WO 02/060702 A2 in further view of GB 2 292 082 A. The Examiner's rejections are respectfully traversed.

WO 02/060702 A2 teaches the addition of a colorant to the non-woven web either by the addition of dye or pigment to the white-water or by use of an applicator such as a binder applicator (see page 19, lines 15-17). WO 02/060702 A2 is clearly teaching 100% surface coverage of the non-woven web material. There is neither hint nor suggestion of less than 100% coverage of the surface area of the non-woven material, nor is there hint or suggestion that such coverage would be of any utility in the WO 02/060702 A2 process.

Moroff teaches a method of impregnating web structures with a synthetic resin in which the non-woven web is passed through a trough filled with the impregnating bath (see col. 3, lines 55-60). Moroff, too, is clearly teaching 100% surface coverage of the non-woven web material. There is neither hint nor suggestion in Moroff of less than 100% coverage of the surface area of the non-woven material, nor is there hint or suggestion that such coverage would be of any utility in this method.

Although Jellinek makes reference to applying his emulsions using a rotary screen, however, with regard to non-woven material, Jellinek clearly teaches impregnation as seen in column 1, lines 18-21,

“...Some important applications where the highest standards of performance are routinely demanded of emulsion polymers include binders for nonwoven fabrics...” (emphasis added)

column 4, lines 15-20,

“...They may be used particularly advantageously as adhesives for flocking and laminating, binders for pigment printing and for bonding nonwovens where they provide outstanding fastness properties without need for external crosslinking agents...” (emphasis added)

and column 4, lines 45-50,

“...In general the copolymer is applied in an amount appropriate to the bonding requirement, so that a pigment print paste may contain from 2 to 10% copolymer solids, a flocking adhesive from 15 to 50% copolymer solids, and an impregnate for nonwoven fabrics at from 5 to 40% copolymer solids...” (emphasis added)

Impregnation indeed includes 100% coverage of the surface of the non-woven material, as was known is the art prior to the present invention. With regard to non-woven material, there is neither hint nor suggestion in Jellinek of less than 100% coverage of the surface area of the non-woven material, nor is there hint or suggestion that such coverage would be of any utility if used with the Jellinek emulsions as binders impregnated in non-woven material.

Frischer clearly teaches the application of a decorative pattern by means of a dry heat transfer method. Frischer makes specific reference to a “Nomex blanket heat transfer machine” (see col. 5, lines 54-57). The Nomex machine and the Frischer process are not suitable for use with still wet non-woven material having a moisture content greater than 10% by weight. The Applicant asserts that one of ordinary skill in the art would not look to Frischer for a solution to the problem of printing on still wet non-woven material having a moisture content greater than 10% by weight.

The applicant further asserts that one of ordinary skill in the art would not have been motivated by Frischer’s dry heat transfer method to modify WO 02/060702 A2, Moroff or

Jellinek to apply a finishing agent so as to cover less than 100% of the surface area of the still wet non-woven material having a moisture content greater than 10%.

This is in contrast to the teachings of the present invention, which clearly teaches applying the finishing agent to less than 100% of a surface area of said non-woven fabric using said rotary screen printer, while said moisture content of said non-woven fabric is greater than 10% by weight. Reference is made to page 15, lines 12-18,

“...When adding color to the fabric a uniform half-tone dot pattern of colorant may be applied to the surface of the fabric thereby achieving a substantially uniform colored visual effect while economizing on colorant. This will also be true of any other additive which may require uniform application to the entire surface area, or regions of the surface, of the fabric while not requiring 100% coverage. Such additives may include, but not be limited to, detergents, lotions, scents, disinfectants, and skin treatments compositions. (emphasis added)

page 13, lines 22-23,

“...The finishing unit 22 is preferably, but not limited to, a rotary screen printer...” (emphasis added)

and page 14, lines 8-17,

“...In the embodiment of Figure 1, the non-woven fabric enters the rotary finishing unit 22 with a water-to-fibers weight ratio of about 0.8-1.5:1 (i.e. 80%-150%) as mention above. Due to variances in the characteristics of different web fibers, thickness of the finished non-woven fabric, and the various finishing agents that may be applied, it may be advantageous to reduce to the water content of the non-woven fabric before applying the finishing agent. To that end, the alternative production line of Figure 2 provides a pre-dryer to reduce the weight ratio of water to fiber to an amount less than 0.8:1 (i.e. <80%) with 0.1:1 (i.e. 10%) being the preferred minimum moisture content when the additive is applied...” (emphasis added)

In order to further distinguish the features of the instant invention over the cited prior art, both claims 1 and 19 are now amended to include the limitations of “applying the finishing agent to less than 100% of a surface of said non-woven fabric using said rotary screen printer.” This is clearly distinct from the method of WO 02/060702 A2 in view of the

methods both of Moroff et al. and Frischer. Support for these amendments is found on page 13, lines 22-23 and page 15, lines 12-18.

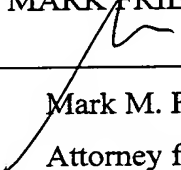
The Applicant believes that the above comments completely overcome the Examiner's rejections of claims 1 and 19 on § 102(b) and § 103(a) grounds, thereby rendering the rejections of claims 2-18 and 20-34 moot since they are now shown to depend from allowable independent claims.

In view of the above amendments and remarks it is respectfully submitted that independent claims 1 and 19 and hence dependent claims 2-18 and 20-34, are in condition for allowance. Prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,

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